

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
1 July 2004 (01.07.2004)

PCT

(10) International Publication Number
WO 2004/055926 A2

(51) International Patent Classification⁷:

H01M 6/00

(21) International Application Number:

PCT/EP2003/014264

(22) International Filing Date:

15 December 2003 (15.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

MI2002A002637

16 December 2002 (16.12.2002) IT

(71) Applicant (*for all designated States except US*): NUVERA FUEL CELLS EUROPE S.R.L. [IT/IT]; Via Bistolfi, 35, I-20134 Milano (IT).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): TORO, Antonino [IT/IT]; Via Morandi, 17, I-20090 Segrate (IT).

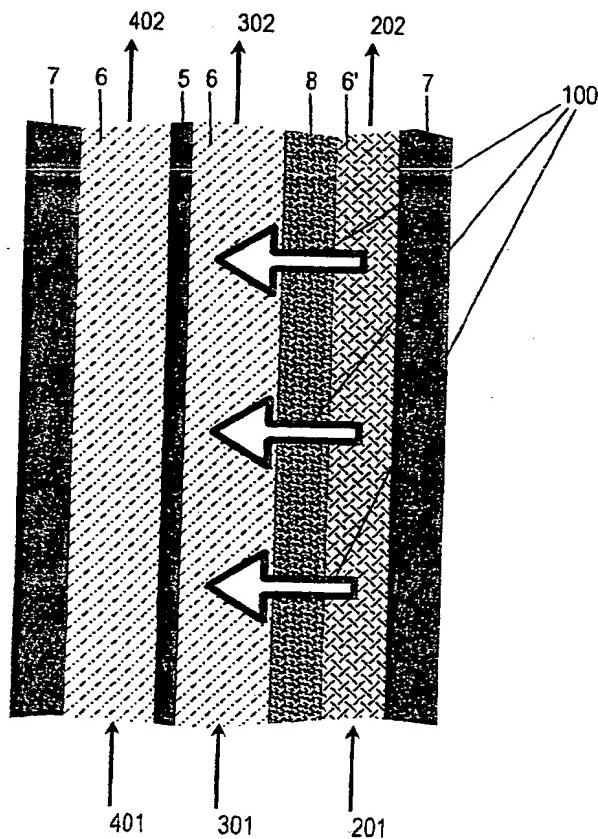
(74) Agents: REITSTÖTTER, Kinzebach & Partner (GbR) et al.; Sternwartstrasse 4, 81679 München (DE).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

[Continued on next page]

(54) Title: ELETROCHEMICAL GENERATOR AND METHOD FOR ITS UTILISATION



(57) Abstract: An electrochemical generator consisting of an alternation of membrane fuel cells and cooling cells with internal circulation of liquid water is described. The fuel cells are fed in at least one of the two compartments, anodic or cathodic, with dry gas, which is humidified through the passage of water coming from the adjacent cooling cell through a metal porous separating wall. The permeated liquid water contributes to the withdrawal of the heat of reaction by evaporating at least in part inside the fuel cells.



SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- without international search report and to be republished upon receipt of that report.